

[39]

What is claimed is:

1. A method for absorbing irritants in the skin and delivering sulfur to skin comprising  
  
Applying a composition, wherein the composition comprises one or more high sorption bases, sulfur and one or more sulfur derivatives;  
  
Absorbing irritants from the skin with the composition; and  
  
Delivering sulfur to the skin, wherein the skin comprises one or more of the group consisting of epidermis, dermis, and stratum corneum.
2. The method of claim 1 wherein the high sorption base comprises one or more of the group consisting of non-swelling clay, gum, swelling clay and silicon.
3. The method of claim 2 wherein the composition has a pH of about 6.5 to about 8.1.
4. The method of claim 2 wherein the composition has a pH of about 7.0 to about 8.1.
5. The method of claim 2 wherein the composition has a pH of about 7.7 to about 8.1.
6. The method of claim 2 wherein the composition has a pH of about 7.3 to about 7.7.
7. The method of claim 2 wherein the non-swelling clay, comprises a hydrated aluminum silicate.

8. The method of claim 2 wherein the non-swelling clay comprises kaolin.
9. The method of claim 2 wherein the non-swelling clay is present at about 18.00%.
10. The method of claim 1 wherein the sulfur derivative comprises one or more cationic sulfur compounds.
11. The method of claim 1, 2 or 3 wherein the sulfur derivative comprises one or more of the group consisting of organic sulfides, inorganic sulfides, inorganic sulfites, organic mercaptans, inorganic mercaptans, cationic sulfur compounds, selenium sulfide, potassium sulfide, poly-potassium sulfide, and poly-calcium poly-sulfide, H<sub>2</sub>S, sulfuric acid, bisulfides, sulfur dioxide, thiols, organic salts, and sodium sulfacetamide.
12. The method of claim 1, 2 or 3 wherein the sulfur derivatives comprise one or more of the group consisting of sodium sulfacetamide, sulfites, and mercaptans.
13. The method of claim 1, 2 or 3 wherein the sulfur derivative comprises sodium sulfacetamide.
14. The method of claim 1 wherein the sulfur derivative is present at about 10%.
15. The method of claim 1 wherein the sulfur is present at about 5%.
16. The method of claim 2 wherein the gum comprises xanthan gum.
17. The method of claim 2 wherein the gum comprises a natural gum.
18. The method of claim 2 wherein the gum comprises an artificial gum.

19. The method of claim 2 wherein the gum is present at about 0.30%.
20. The method of claim 2 wherein the swelling clay comprises one or more of the group consisting of montmorillonite, bentonite, clinoptilolite, vermiculite, magadite, smectite, laponite, beidellite, and magnesium aluminum silicate.
21. The method of claim 2 wherein the swelling clay comprises magnesium aluminum silicate.
22. The method of claim 2 wherein the swelling clay is present at about 1.50%.
23. The method of claim 2 wherein the silicon comprises one or more of the group consisting of silica, colloidal silica, colloidal hydrated silica, precipitated silica, silica gels, and silicon dioxide.
24. The method of claim 2 wherein the silicon comprises silicon dioxide.
25. The method of claim 2 wherein the silicon is present at about 5.00%.
26. The method of claim 2 wherein the composition further comprises water.
27. The method of claim 26 wherein the water is present at about 40-50%.
28. The method of claim 26 wherein the water is present at about 41.76%.
29. The method of claim 26 wherein the water is present at about 46.76%.

FOOTNOTES 10022482.131804

30. The method of claim 1, 2 or 3 wherein the irritants comprise one or more of the group consisting of sweat, sebum, moisture, epidermal metabolites, residue from cosmetics and residue from pharmaceuticals.
31. A high sorption composition comprising
- Sulfur;
- One or more sulfur derivative and
- One or more high sorption base.
32. The composition of claim 31 wherein the high sorption base comprises one or more of the group consisting of non-swelling clay, gum, swelling clay and silicon.
33. The composition of claim 31 has a pH of about 6.5 to about 8.1.
34. The composition of claim 31 has a pH of about 7.0 to about 8.1.
35. The composition of claim 31 has a pH of about 7.7 to about 8.1.
36. The composition of claim 31 has a pH of about 7.3 to about 7.7.
37. The composition of claim 32 wherein the non-swelling clay comprises a hydrated aluminum silicate.
38. The composition of claim 32 wherein the non-swelling clay comprises kaolin.
39. The composition of claim 32 wherein the non-swelling clay is present at about 18.00%.

10022482.121801

40. The composition of claim 31 wherein the sulfur derivative comprises one or more cationic sulfur compounds.
41. The composition of claim 31, 32, or 33 wherein the sulfur derivative comprises one or more of the group consisting of organic sulfides, inorganic sulfides, inorganic sulfites, organic mercaptans, inorganic mercaptans, cationic sulfur compounds, selenium sulfide, potassium sulfide, poly-potassium sulfide, and polycalcium polysulfide, H<sub>2</sub>S, sulfuric acid, bisulfides, sulfur dioxide, thiols, organic salts, and sodium sulfacetamide.
42. The composition of claim 31, 32, or 33 wherein the sulfur derivative comprises one or more of the group consisting of sodium sulfacetamide, sulfites and mercaptans.
43. The composition of claim 31, 32 or 33 wherein the sulfur derivative comprises sodium sulfacetamide.
44. The composition of claim 31 wherein the sulfur derivative is present at about 10%.
45. The composition of claim 31 wherein the sulfur is present at about 5%.
46. The composition of claim 32 wherein the gum comprises xanthan gum.
47. The composition of claim 32 wherein the gum comprises a natural gum.
48. The composition of claim 32 wherein the gum comprises an artificial gum.
49. The composition of claim 32 wherein the gum is present at about 0.30%.

10022482-121801

50. The composition of claim 32 wherein the swelling clay comprises one or more of the group consisting of montmorillonite, bentonite, clinoptilolite, vermiculite, magadite, smectite, laponite, beidellite, and magnesium aluminum silicate.
51. The composition of claim 32 wherein the swelling clay comprises magnesium aluminum silicate.
52. The composition of claim 32 wherein the swelling clay is present at about 1.50%.
53. The composition of claim 32 wherein the silicon comprises one or more of the group consisting of silica, colloidal silica, colloidal hydrated silica, precipitated silica, silica gels, and silicon dioxide.
54. The composition of claim 32 wherein the silicon comprises silicon dioxide.
55. The composition of claim 32 wherein the silicon is present at about 5.00%.
56. The composition of claim 32 wherein the composition further comprises water.
57. The composition of claim 56 wherein the water is present at about 40-50%.
58. The composition of claim 56 wherein the water is present at about 41.76%.
59. The composition of claim 56 wherein the water is present at about 46.76%.

60. The composition of claim 31, 32 or 33, wherein the irritants comprise one or more of the group consisting of sweat, sebum, moisture, epidermal metabolites, residue from cosmetics and residue from pharmaceuticals.

61. A composition comprising  
Water;  
Xanthan gum;  
Magnesium aluminum silicate;  
Kaolin;  
Silicon dioxide;  
Sodium sulfacetamide;  
Sodium thiosulfate;  
Glyceryl stearate;  
PEG-100 Stearate;  
Quillaia saponaria extract;  
Benzyl alcohol; and  
Sulfur.

62. A composition comprising  
  
Water;  
Xanthan gum;  
Kaolin;  
Silicon dioxide;  
Sulfacetamide sodium;  
Sodium thiosulfate;  
Glyceryl stearate & PEG-100 stearate;  
Quillaia saponaria extract;  
Benzyl alcohol; and  
Precipitated sulfur.

63. A method for enhancing absorption of sulfur in skin comprising

Applying a composition, wherein the composition comprises one or more high sorption bases, sulfur and one or more sulfur derivatives; and

Absorbing sulfur in the skin, wherein the skin comprises one or more of the group consisting of epidermis, dermis, and stratum corneum.

64. The method of claim 63 wherein the high sorption base comprises one or more of the group consisting of non-swelling clay, gum, swelling clay and silicon.
65. The method of claim 64 wherein the composition has a pH of about 6.5 to about 8.1.
66. The method of claim 64 wherein the non-swelling clay, comprises a hydrated aluminum silicate.
67. The method of claim 64 wherein the non-swelling clay comprises kaolin.
68. The method of claim 63 wherein the sulfur derivative comprises one or more cationic sulfur compounds.
69. The method of claim 63, 64, or 65 wherein the sulfur derivatives comprise one or more of the group consisting of sodium sulfacetamide, sulfites, and mercaptans.
70. The method of claim 63, 64 or 65 wherein the sulfur derivative comprises sodium sulfacetamide.
71. The method of claim 63 wherein the sulfur derivative is present at about 10%.



FOOTNOTES 2002-10-10

72. The method of claim 63 wherein the sulfur is present at about 5%.
73. The method of claim 64 wherein the gum comprises a natural gum.
74. The method of claim 64 wherein the gum comprises an artificial gum.
75. The method of claim 64 wherein the swelling clay comprises one or more of the group consisting of montmorillonite, bentonite, clinoptilolite, vermiculite, magadite, smectite, laponite, beidellite, and magnesium aluminum silicate.
76. The method of claim 64 wherein the swelling clay comprises magnesium aluminum silicate.
77. The method of claim 64 wherein the silicon comprises one or more of the group consisting of silica, colloidal silica, colloidal hydrated silica, precipitated silica, silica gels, and silicon dioxide.
78. The method of claim 64 wherein the silicon comprises silicon dioxide.
79. The method of claim 64 wherein the composition further comprises water.
80. The method of claim 79 wherein the water is present at about 40-50%.

81. A method for delivering sulfur to skin and absorbing irritants in the skin comprising:

Applying a composition, wherein the composition comprises one or more high sorption bases, sulfur, and one or more sulfur derivatives, wherein the composition has a pH of about 6.5 to about 8.1, wherein

the high sorption base comprises non-swelling clay, gum, swelling clay and silicon;

Absorbing irritants from the skin with the composition wherein the irritants comprise one or more of the group consisting of sweat, sebum, moisture, epidermal metabolites, residue from cosmetics and residue from pharmaceuticals; and

Delivering sulfur to the skin, wherein the skin comprises one or more of the group consisting of epidermis, dermis and stratum corneum.

10022482.121801